APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,943	12/31/2001	Joon-Young Jung	123054-05005237	5261

22429   7590   11/13/2007

LOWE HAUPTMAN HAM & BERNER, LLP
1700 DIAGONAL ROAD
SUITE 300
ALEXANDRIA, VA 22314

EXAMINER
EKPO, NNENNA NGOZI

ART UNIT	PAPER NUMBER
2623	

MAIL DATE	DELIVERY MODE
11/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/029,943	JUNG ET AL.
	Examiner	Art Unit	
	Nnenna N. Ekpo	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____ .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-12* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-12* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *31 December 2001* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All b) ☐ Some * c) ☐ None of:

    1. ☒ Certified copies of the priority documents have been received.

    2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *02/21/2002 & 01/22/2004*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

Priority

1.   Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which

papers have been placed of record in the file.

Information Disclosure Statement

2.   The references listed in the Information Disclosure Statement filed on February

21, 2002 and January 22, 2004 has been considered by the examiner (see attached

PTO-1449 form).

Specification

3.   The abstract of the disclosure is objected to because it contains the word

"comprises" and is a repetition of claim 1. Correction is required. See MPEP

§ 608.01(b).

4.   Applicant is reminded of the proper language and format for an abstract of the
disclosure.

        The abstract should be in narrative form and generally limited to a single
paragraph on a separate sheet within the range of 50 to 150 words. It is important that
the abstract not exceed 150 words in length since the space provided for the abstract
on the computer tape used by the printer is limited. The form and legal phraseology
often used in patent claims, such as "means" and "said," should be avoided. The
abstract should describe the disclosure sufficiently to assist readers in deciding whether
there is a need for consulting the full patent text for details.

        The language should be clear and concise and should not repeat information
given in the title. It should avoid using phrases which can be implied, such as, "The
disclosure concerns," "The disclosure defined by this invention," "The disclosure
describes," etc.

Claim Objections

5.   Claim 3 is objected to because of the following informalities:

Regarding **claim 3**, recites the limitation "the system manager" in line 8. For the

rest of this Office Action, "said system manager" will be treated as "a system manager".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

7.   **Claim 3** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

Regarding **claim 3**, recites the limitation "the system manager" in line 8. There is

insufficient antecedent basis for this limitation in the claim. Since **claims 4 and 5** are

dependent on **claim 3**, they inherit the same problem.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9.   **Claims 1-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuh (US Patent Number 6,785,903) in view of Kessler et al. (US Patent Number 6,621,528) and Negishi et al. (US Publication Number 2003/0103446).

Regarding **claim 1**, Kuh discloses a program and system information protocol (PSIP) converter for selectively receiving a digital terrestrial broadcasting transport stream (TS) or a digital satellite broadcasting TS, converting them into a corresponding digital cable broadcasting TS, and outputting the same, comprising (see fig 3):

a protocol data extractor for demultiplexing the terrestrial broadcasting TS or the satellite broadcasting TS, extracting audio/video (A/V) data and PSIP/PSI (program specific information) data from the terrestrial broadcasting TS (see fig 3 (16), column 5, lines 17-32 and column 4, lines 8-15);

a protocol data converter for using the PSIP/PSI data or the SI/PSI data extracted by the protocol data extractor, and generating PSIP/PSI data of a corresponding digital cable television broadcasting standard (see column 2, lines 50-65);

a protocol data inserter for inserting the digital cable television broadcasting standard PSIP/PSI data generated by the protocol data converter into the A/V data extracted by the protocol data extractor through TS multiplexing (see fig 3 (17), column 5, lines 17-32, lines 63-67 and column 6, lines 1-9), and

Protocol data extractor (see fig 3 (16)), the protocol data converter (see column 2, lines 50-65) and the protocol data inserter (see fig 3 (17)). However, Kuh fails to specifically disclose a system controller and extracting SI (system information)/PSI data from the satellite broadcasting TS.

Kessler et al. discloses a system controller (see column 2, lines 17-33).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kuh's invention with the above mentioned limitation as taught by Kessler et al. for the advantage of determining whether the major channel is PSIP compliant.

However, Kuh and Kessler et al. fails to specifically disclose extracting SI (system information)/PSI data from the satellite broadcasting TS.

Negishi et al. discloses extracting SI (system information)/PSI data from the satellite broadcasting TS (see paragraph 0117 (as shown in fig 13, the demux extracts SI/PSI data from the receiving antenna (220) which receives data signal from a broadcasting station)).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kuh and Kessler et al.'s invention with the above mentioned limitation as taught by Negishi et al. for the advantage of receiving selected information from the satellite broadcasting station.

Regarding **claim 2**, Kuh, Kessler et al. and Negishi et al. discloses everything claimed as applied above (*see claim 1*). Kuh discloses the PSIP converter further comprising:

a TS receiver for receiving the terrestrial broadcasting TS or the satellite broadcasting TS, and transmitting the same to the protocol data extractor (see fig 2, 3, column 4, lines 6-17);

a TS transmitter for outputting the digital cable broadcasting TS generated by the protocol data inserter to the outside (see column 4, lines 47-56); and

Kessler et al. discloses a user interface for receiving information and control data needed for generating the PSIP/PSI data of the digital cable television broadcasting standard (see column 2, lines 17-21).

Regarding **claim 3**, Kuh, Kessler et al. and Negishi et al. discloses everything claimed as applied above (*see claim 1*). Kuh discloses the PSIP converter wherein the protocol data converter comprises:

a table data manager for receiving the terrestrial broadcasting PSIP/PSI data or the satellite broadcasting SI/PSI data from the protocol data extractor, splitting them according to tables corresponding to the PSIP or the SI and the PSI, and extracting data for generating the digital cable broadcasting PSIP/PSI tables (see column 1, lines 65-67 and column 2, lines 1-18);

a scheduler for outputting control signals corresponding to each table generation period of the digital cable broadcasting PSIP/PSI (see column 2, lines 66-67 and column 3, lines 1-25); and

a PSIP/PSI table generator for generating the digital cable broadcasting PSIP/PSI table by using the data input by the common protocol data manager according to the control signal output by the scheduler, and outputting the same to the protocol data inserter (see column 5, lines 17-32).

a common protocol data manager for using the data extracted by the table data manager (see column 4, lines 29-32).

Kessler et al. discloses the data input by the system manager through the user interface, and the data stored in a database to configure data needed for generating the digital cable broadcasting PSIP/PSI tables (see column 1, lines 63-67 and column 2, lines 1-33).

Regarding **claim 4**, Kuh, Kessler et al. and Negishi et al. discloses everything claimed as applied above (*see claim 3*). Kuh discloses the PSIP converter wherein the PSIP/PSI table generator transmits the digital cable broadcasting PSIP data to a PSIP server through a predetermined network so that the digital cable broadcasting PSIP data are included in the digital cable SI data and transmitted to a subscriber, the PSIP server transmitting digital cable SI data to the subscriber through an out-of-band channel (see column 2, lines 66-67 and column 3, lines 1-25).

Regarding **claim 5**, Kuh, Kessler et al. and Negishi et al. discloses everything claimed as applied above (*see claim 3*). Kuh discloses the PSIP converter further comprising:

a TS data receiver for receiving the terrestrial broadcasting PSIP/PSI data or the satellite broadcasting SI/PSI data from the protocol data extractor (see figs 2, 3, column 4, lines 29-32); and

a TS packet data generator for configuring the digital cable broadcasting PSIP/PSI table generated by the PSIP/PSI table generator into MPEG-2 TS packets, and transmitting them to the protocol data inserter (see column 4, lines 11-20).

Regarding **claim 6**, Kuh discloses a program and system information protocol (PSIP) conversion method for selectively receiving a digital terrestrial broadcasting transport stream (TS) or a digital satellite broadcasting TS, converting them into a corresponding digital cable broadcasting TS, and outputting the same, comprising (see fig 3):

(b) converting the terrestrial broadcasting TS or the satellite broadcasting TS into an internally processed bit rate format (see column 5, lines 52-61);

(c) filtering the converted terrestrial broadcasting TS or the satellite broadcasting TS to extract A/V data and PSIP/PSI data from the terrestrial broadcasting TS (see column 5, lines 3-16 and fig 3);

(d) analyzing the extracted PSIP/PSI data or the SI/PSI data to generate the

corresponding digital cable broadcasting PSIP/PSI data (see column 5, lines 17-32);

and

(e) receiving the digital cable broadcasting PSIP/PSI data in (d) and the extracted

A/V data in (c), performing TS multiplexing on them, and outputting them in the digital

cable broadcasting TS (see column 5, lines 52-66, column 6, lines 1-9 and fig 5).

However, Kuh fail to specifically disclose (a) receiving a program information description

(PID) needed for analyzing the terrestrial broadcasting TS or the satellite broadcasting

TS, information needed for protocol conversion, data for other controls from a user and

extract SI/PSI data from the satellite broadcasting TS.

Kessler et al. discloses (a) receiving a program information description (PID)

needed for analyzing the terrestrial broadcasting TS or the satellite broadcasting TS,

information needed for protocol conversion, and data for other controls from a user (see

column 4, lines 37-46).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to modify Kuh's invention with the above mentioned

limitation as taught by Kessler et al. for the advantage of easily identifying a program.

However, Kuh and Kessler et al. fails to specifically disclose extracting SI

(system information)/PSI data from the satellite broadcasting TS.

Negishi et al. discloses extracting SI (system information)/PSI data from the

satellite broadcasting TS (see paragraph 0117 (as shown in fig 13, the demux extracts

SI/PSI data from the receiving antenna (220) which receives data signal from a

broadcasting station)).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to modify Kuh and Kessler et al.'s invention with the

above mentioned limitation as taught by Negishi et al. for the advantage of receiving

selected information from the satellite broadcasting station.

Regarding **claim 7**, Kuh, Kessler et al. and Negishi et al. discloses everything

claimed as applied above (*see claim 6*). Kuh discloses the PSIP conversion method

further comprising: including the digital cable broadcasting PSIP data in (d) in the digital

cable SI data transmitted to a subscriber through an out-of-band channel, and

transmitting them to the subscriber (see fig 6 and column 6, lines 26-45, data is being

transmitted to the subscribers at different frequencies (f0, f1 and f2)).

10.   **Claim 8** is rejected under 35 U.S.C. 103(a) as being obvious over Kuh (US

Patent Number 6,785,903) in view of Kessler et al. (US Patent Number 6,621,528),

Negishi et al. (US Publication Number 2003/0103446) and further in view of Jung et al.

(US Patent Number 6,038,232).

Regarding **claim 8**, Kuh, Kessler et al. and Negishi et al. discloses everything

claimed as applied above (*see claim 6*). However, Kuh and Kessler et al. fail to

specifically discloses the multiplexing process in (e) comprises: amending variations of

a program clock reference (PCR), and converting the multiplexed TS according to an

output bit rate.

Jung et al. disclose the multiplexing process in (e) comprises: amending

variations of a program clock reference (PCR), and converting the multiplexed TS

according to an output bit rate (see column 2, lines 3-10).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to modify Kuh, Kessler et al and Negishi et al.'s

invention with the above mentioned limitation as taught by Jung et al. for the advantage

of using the multiplexer to employ program map table and program association table

buffers having simplified interface and using FIFO.

11.   **Claims 9 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Kuh (US Patent Number 6,785,903) in view of Yun (US Patent Number 6,700,624),

Sheets (US Patent Number 4,513,373) and Liu et al. (US Patent Number 6,870,808).

Regarding **claim 9**, Kuh discloses a digital cable television broadcasting system

for selectively receiving digital terrestrial broadcasting or digital satellite television

broadcasting and linking the same to a digital cable broadcasting network in real-time,

comprising (see fig 3):

a program and system information protocol (PSIP) converter for analyzing the

terrestrial broadcasting TS or the satellite broadcasting TS output by the broadcasting

signal demodulators, converting a terrestrial broadcasting PSIP/PSI table or a satellite

television broadcasting SI/PSI table for transmitting program and system information into PSIP/PSI tables of a corresponding digital cable television broadcasting standard, and outputting a cable broadcasting TS (see fig 2 and column 4, lines 4-20);

a plurality of broadcasting signal modulators (fig 4 (21,22,23,24)) for modulating the cable broadcasting TS output by the PSIP converters (see column 5, lines 33-42);

up-converters for converting the cable broadcasting TS modulated by the broadcasting signal modulators into radio frequency (RF) signals (see column 1, lines 52-57)

mixer for mixing the cable broadcasting TS converted by the up-converters, and outputting them to a cable connected to a subscriber (see fig 5 (28)).   However, Kuh fail to specifically disclose a plurality of broadcasting signal demodulators for demodulating the digital terrestrial broadcasting signals or the digital satellite television broadcasting signals, and outputting them in terrestrial broadcasting transport streams (TS) or satellite broadcasting TS, a plurality of program and system information protocol (PSIP) converters and a plurality of up-converters.

Yun discloses a plurality of broadcasting signal demodulators for demodulating the digital terrestrial broadcasting signals or the digital satellite television broadcasting signals, and outputting them in terrestrial broadcasting transport streams (TS) or satellite broadcasting TS (see fig 7 (102, 202) and column 5, lines 35-67 and column 6, lines 1-43).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kuh's invention with the above mentioned limitation as taught by Yun for the advantage of low cost.

However, Kuh and Yun fail to specifically disclose a plurality of program and system information protocol (PSIP) converters and a plurality of up-converters.

Sheets disclose a plurality of program and system information protocol (PSIP) converters (see abstract, lines 9-14, column 2, lines 39-53).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kuh and Yun's invention with the above mentioned limitation as taught by Sheets for the advantage of communicating between a plurality of dissimilar systems.

However, Kuh, Yun and Sheets fail to specifically disclose a plurality of up-converters.

Liu et al. discloses a plurality of up-converters (see column 6, lines 62-67, column 7, lines 1-5 and fig 5 (508)).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kuh, Yun and Sheets invention with the above mentioned limitation as taught by Liu et al. for the advantage of reducing switching time and enables operation at high frequency.

Regarding **claim 11**, Kuh, Yun, Sheets and Liu et al. discloses everything

claimed as applied above (*see claim 9*). Kuh discloses the digital cable television

broadcasting system further comprising:

a PSIP server for receiving digital cable PSIP table information generated by the

PSIP converter, and including the same in digital cable SI data to be transmitted to an

out-of-band channel (see column 2, lines 66-67 and column 3, lines 1-25);

an out-of-band channel signal modulator for modulating the cable SI data

generated by the PSIP server, and transmitting them to a subscriber through the out-of-

band channel (see column 4, lines 29-46, the PSIP server transmits the out-of –band

channel (different channel) to the subscribers); and

an out-of-band channel network controller for controlling the cable SI data

transmitted to the out-of-band channel signal modulator from the PSIP server (see

column 4, lines 15-20, out-of-band channels are considered to be the major and minor

channel numbers).

12.   **Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable

over Kuh (US Patent Number 6,785,903) in view of Yun (US Patent Number 6,700,624),

Sheets (US Patent Number 4,513,373), Liu et al. (US Patent Number 6,870,808) and

Kasser (US Patent Number 6,078,800).

Regarding **claim 10**, Kuh, Yun, Sheets and Liu et al. discloses everything

claimed as applied above (*see claim 9*). Kuh discloses the digital cable television

broadcasting system, further comprising: a terrestrial broadcasting antenna for receiving the digital terrestrial broadcasting and outputting corresponding broadcasting signals to the broadcasting signal demodulator (see column 5, lines 3-16). However, Kuh, Yun, Sheets and Liu et al. fail to specifically disclose a satellite broadcasting antenna for receiving the digital satellite television broadcasting and outputting corresponding broadcasting signals to the broadcasting signal demodulator.

Kasser discloses a satellite broadcasting antenna for receiving the digital satellite television broadcasting and outputting corresponding broadcasting signals to the broadcasting signal demodulator (see column 2, lines 56-67, column 3, lines 1-7 and fig 2a).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kuh, Yun, Sheets, Liu et al.'s invention with the above mentioned limitation as taught by Kasser for the advantage of obtaining bi-directional services.

Regarding **claim 12**, Kuh, Yun, Sheets and Liu et al. discloses everything claimed as applied above (*see claim 9*). Kuh discloses the digital cable television broadcasting system, wherein the PSIP converter comprises:

a protocol data extractor for demultiplexing the terrestrial broadcasting TS or the satellite broadcasting TS, extracting audio/video (A/V) data and PSIP/PSI data from the terrestrial broadcasting TS, and extracting A/V data and SI/PSI data from the satellite broadcasting TS (see fig 3 (16), column 5, lines 17-32 and column 4, lines 8-15);

a protocol data converter for using the PSIP/PSI data or the SI/PSI data

extracted by the protocol data extractor to generate PSIP/PSI data of a corresponding

digital cable television broadcasting standard (see column 2, lines 50-65);

a protocol data inserter for inserting the PSIP/PSI data generated by the protocol

data converter into the A/V data extracted by the protocol data extractor through TS

multiplexing, and generating digital cable broadcasting TS (see fig 3 (17), column 5,

lines 17-32, lines 63-67 and column 6, lines 1-9), and Protocol data extractor (see fig 3

(16)), the protocol data converter (see column 2, lines 50-65) and the protocol data

inserter (see fig 3 (17)). However, Kuh, Yun, Sheets and Liu et al. fail to specifically

disclose a system controller.

Kessler discloses a system controller (see column 2, lines 17-33).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to modify Kuh, Yun, Sheets and Liu et al.'s invention

with the above mentioned limitation as taught by Kessler et al. for the advantage of

determining whether the major channel is PSIP compliant.

Citation of Pertinent Prior Art

13.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Barreyro et al. (US Publication Number 2002/0145679).

Schwalb (US Publication Number 2002/0120790).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nnenna N. Ekpo whose telephone number is 571-270-1663. The examiner can normally be reached on Monday - Friday 7:30 AM-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on 571-272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NNE/nne
October 18, 2007

ANDREW Y. KOENIG
PRIMARY PATENT EXAMINER